IN THE CLAIMS:

Please cancel claims 11, 23, 24, 27, 43, 50 - 54, 56-59 without prejudice.

Please amend the claims as follows:

1. (amended) An anti-collision system for use within a motorized vehicle, comprising:

means for sensing the urgency with which the brakes of a first vehicle are being activated and generating an alert signal in response thereto;

a visual indicator directed rearwardly of said first vehicle; and

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means for rearwardly communicating sufficiently urgent levels of braking as a radio-frequency alert signal which includes position related data for qualifying said alert signal, said alert signal adapted for receipt by anti-collision systems within vehicles following said first vehicle for providing advance warning to drivers for the avoidance of collisions.

4. (amended) An anti-collision system as recited in claim 1, wherein said visual indicator comprises a circuit adapted for activating the reverse lights of said vehicle in response to said alert signals and of being seen from behind said vehicle.

a5 Cont.

5. (amended) An anti-collision system as recited in claim 1, wherein said means for rearwardly communicating sufficiently urgent levels of braking comprises a remote communications link adapted for generating alert signals which include signal retransmission control data for limiting the dissemination of said alert signals.

6. (amended) An anti-collision system for communicating events from a first vehicle to secondary vehicles following said first vehicle for increasing the available reaction time provided to the drivers of said secondary vehicles, comprising:

a sensor configured for attachment to the braking system of said first vehicle and configured to generate an alert signal in response to the urgency with which the brakes are applied by the driver of said first vehicle;

a visual indicator directed rearwardly from said first vehicle which is adapted to annunciate said alert signal;

a controller operably connected to said sensor and configured to remotely communicate said alert signal including signal regeneration data to activate an event indicator.

7. (amended) An anti-collision system as recited in claim 6, wherein the urgency of brake application is characterized by said sensor responding to changes in applied brake pedal pressure.

10. (amended) An anti-collision system as recited in claim 6, wherein the urgency of brake application is characterized by said sensor in response to brake pedal accelerations.

12. (amended) An anti-collision system as recited in claim 11, wherein said visual indicator is modulated on and off by said controller to increase recognition.

13. (amended) An anti-collision system as recited in claim 11, wherein said visual indicator comprises the reverse lights of said first vehicle.

14. (amended) An anti-collision system as recited in claim 6, wherein said remote communication of said alert signal by said controller is comprising a communications link operably connected with said controller through which the alert event indicator located on another, second, vehicle is capable of being activated.

15. (amended) An anti-collision system as recited in claim 14, wherein the communications link is configured with a communications protocol in which a multiplicity of senders and signal regenerators are synchronized to the event being generated from a primary signal generator located the farthest forward within a group of vehicles.

16. (amended) An anti-collision system as recited in claim 14, wherein said communications protocol comprises a multiplicity of time slots selected for event signal transmission by said controllers within anti-collision system of additional vehicles proximal to said first vehicle.

17. (amended) An anti-collision system as recited in claim 16, wherein said event signal transmissions are oriented substantially for rearward projection from said first vehicle such that the associated event signal generated by said first vehicle is directed for reception by vehicles following said first vehicle.

a7 Cont'd

18. (amended) An anti-collision system as recited in claim 16, wherein the controller is configured to provide event signal communication of a single event as periodic transmissions within a selected time slot wherein signal interference with alert signals generated from other of said anti-collision systems is prevented.

21. (amended) An anti-collision system as recited in claim 6, wherein said controller is configured to encode multiple levels of severity data within the event signal.

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22. (amended) An anti-collision system as recited in claim 6, wherein said controller is configured to encode identification data allowing event signals generated from different vehicles to be distinguished from one another.

25. (amended) An anti-collision system as recited in claim 6:

a9 Cont.

wherein event signal regeneration is controlled by the transmission of a regeneration limiter value encoded within the transmitted event signal that limits the

number of consecutive times that said alert signal may be retransmitted by a controller not associated with the vehicle originally registering the event;

wherein said limitation on consecutive number of retransmissions depends on which of multiple severity levels the alert signal belongs.

a9 cont.

26. (amended) An anti-collision system as recited in claim 25, wherein said regeneration limiter value comprises a count value encoded into the event signal and set to a first value upon first transmission from said first vehicle and which is subsequently altered by additional anti-collision systems responsive to said first transmission within additional vehicles, wherein these system are configured to further regenerate the signal until the count value reaches a final value whereupon receipt of the event signal with the final count value prevents further event signal regeneration.

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28. (amended) An anti-collision system as recited in claim 6, further comprising

a10 a crash detection sensor operably connected to said controller and configured to generate a crash event signal in response to detection of a crash.

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31. (amended) An anti-collision system as recited in claim 6, further comprising

all cont. a swerve sensor operably connected to said controller, said swerve sensor generating a swerve signal which is capable of initiating event signal generation by said controller in

response to a sufficient amount of detected swerve and of conditioning the response of the controller.

32. (amended) An anti-collision system as recited in claim 6, further comprising a direction sensor operably connected to said controller and a direction of travel for said first vehicle is encoded within event signals being communicated.

33. (amended) An anti-collision system as recited in claim 6, wherein the event indicator located in said secondary vehicles is adapted to provide a visual indication of said alert signal which is visible to the drivers of said secondary vehicles.

all Cont.

34. (amended) An anti-collision system as recited in claim 6, wherein the event indicator located in said secondary vehicles is adapted to provide an audio alert to the drivers of said secondary vehicles.

35. (amended) An anti-collision system as recited in claim 6, wherein said event indicator located in the second vehicle is responsive to the severity level encoded within said event signal wherein feedback as to the importance of the alert may be provided to the drivers of said secondary vehicles.

36. (amended) An anti-collision system as recited in claim 6, wherein the event indicator is configured for indicating roadway condition messages which are received as

event signals from roadside devices and emergency vehicles equipped to generate roadway condition event signals.

39. (amended) An anti-collision system as recited in claim 6, further comprising a speed sensor connected to the said controller, wherein event signal generation is fully or partially responsive to the output of the speed sensor, such that braking activity which occurs within slow moving vehicles, as in parking lots adjacent to a roadway, does not unnecessarily alert drivers on the roadway.

40. (amended) An anti-collision system as recited in claim 6, further comprising a GPS positioning system connected to said controller for enhancing event qualification by embedding position data within the transmitted event signals and for qualifying received event signals by comparing the position of the vehicle issuing the event with the vehicle within which the event signal has been received.

41. (amended) An anti-collision system as recited in claim 6, further comprising a range detection device operably connected to said controller and capable of determining the distance to the vehicle being followed such that the controller may detect impending crash situations and respond to events in a manner consistent with the amount of following distance that exists.

42. (amended) An anti-collision system as recited in claim 6, wherein the communication link is configured for transmitting event signals which are capable of being received within a properly configured call box unit, or similarly configured receiver, that is configured to receive event signals and communicate significant event information over a communication channel to personnel, such as may be dispatched to the scene.

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44. (amended) An anti-collision system as recited in claim 6, wherein upon receipt of an event signal over the communications link the controller is capable of generating a signal to the cruise control for releasing the pressure on the accelerator pedal, so that the car can begin to decelerate immediately upon receipt of the event signal.

45. (amended) An anti-collision system as recited in claim 6, further comprising an error detection circuit which monitors the operation of said controller and is capable of shutting down portions, or the entire, circuit of the controller in response to detected errors.

46. (amended) An anti-collision system as recited in claim 45, wherein the error detection unit connected to said controller is adapted for receiving additional status

inputs on vehicle conditions and storing event signal information along with status inputs within digital memory for later recall.

47. (amended) An anti-collision system as recited in claim 6, further comprising an automatic mute circuit connected to said controller and capable of muting the audio output of the sound system of said vehicle in response to the controller receiving an event signal of sufficient severity, wherein the driver can be alerted to approaching emergency vehicles which are generating an event signal, as well as to severe roadway conditions requiring the driver's full attention.

48. (amended) An anti-collision system as recited in claim 6, further comprising an automatic braking mechanism connected to said controller which is capable of activating the vehicle's brakes, wherein said controller is configured for activating the automatic braking mechanism detecting a sufficient alert condition.

a13 cont.

49. (amended) An anti-collision system as recited in claim 6, further comprising an accelerator pedal sense input to said controller, wherein said controller is capable of discerning the level of acceleration to which the vehicle is subject, and can additionally discern changes to acceleration, and abrupt releases of the accelerator pedal pressure which may be indicative of a process of hard braking, said controller being configured for conditioning outputs, such as hard braking indicators, communication links, and

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Cnt

mechanisms for automatically engaging the brakes in response thereto.

55. (amended) In a roadside signaling box which is capable of providing communication between its roadway location and a centralized location, wherein the improvement comprises:

a receiver capable of registering event signals generated by the transmitters within vehicles that are experiencing or responding to roadway events;

a control circuit operatively connected to said receiver, wherein the control circuit is adapted for activating an appropriate outcall to emergency personnel when the

a14

registered event signal is of sufficient severity; and

an encoder adapted for converting the information about the received event signals into a signal compatible with the call circuitry of the signaling box, including voice signals and data signals, wherein event signal information is communicated to said central location that may then respond appropriately;

a decoder adapted for receiving messages over said call circuitry which are to be disseminated to drivers; and

a transmitter adapted for generating alert signals containing said messages for receipt within nearby stationary or passing vehicles.

Please add the following claims 60 - 96:

60. An anti-collision system as recited in claim 1:

wherein said position related data for qualifying said alert signal comprises heading information and/or locating coordinates of said vehicle generating said alert signal;

wherein upon receipt said position related data may be compared with heading and/or locating coordinates by the anti-collision system within another vehicle and said alert signal ignored if generated from a sufficiently different heading or location.

61. An anti-collision system as recited in claim 1, wherein said means for rearwardly communicating is adapted for generating multiple levels of alert severity, including crash events associated with a collision along with levels of hard braking and swerving.

Cl5 cont.

62. The roadside signaling box as recited in claim 55, further comprising traffic condition sensors for registering the average speed and number of vehicles passing said signaling box.

63. The roadside signaling box as recited in claim 62, wherein said traffic condition sensors comprise audio sensors coupled to signal processing circuits for extracting vehicle number and speed from analyzing audio vehicle sound patterns.

64. A roadside signaling box for communicating traffic conditions to a central location, comprising:

at least one audio sensor adapted for receiving roadway sounds from a portion of a roadway; and

a signal processing circuit adapted for analyzing said roadway sounds, identifying the sounds of vehicles movement therein, and determining the number and speed of vehicles traveling past said roadway portion.

65. A roadside signaling box as recited in claim 64, wherein at least a first and second audio sensor are utilized which are spaced at a fixed interval; wherein speed and number of vehicles are determined by identifying sound patterns associated with each vehicle and registering the time between the doppler shift that occurs as identified vehicle passed said first and said second audio sensor.

a15 cont.

66. A roadside signaling box as recited in claim 64:

wherein the roadway surface is adapted with a series of small structures, spaced at predetermined intervals crossing each lane laterally, and adapted for interfacing with a tire riding thereover to generate a change in audio output in relation to other portions of said lane;

wherein the unique sound patterns registered by said audio sensor for each lane

can be analyzed for speed over said structures and the number of vehicles passing over said structures in each lane counted.

67. An anti-collision system for use within motor vehicles, comprising:

means for sensing the urgency with which the brakes of the vehicle are being applied and generating alert signals in response thereto;

a radio-frequency communication link directed rearwardly from a primary vehicle transmitting alert signals, along with position related data for qualifying the alert signal, rearwardly to secondary vehicles receiving alert signal transmissions from vehicles further ahead;

an alert indicator adapted for annunciating said alert signal within a vehicle receiving said alert signal transmission;

a controller circuit operable connected to said means for sensing, said radio-frequency communication link, and said alert indicator, and adapted to transmit said alert signals in response to sufficiently urgent levels of braking;

wherein said controller compares its position information with that contained within said position related data to determine if an alert indication is to be generated and if the alert signal is to be regenerated.

68. An anti-collision system as recited in claim 67, wherein said means for sensing the urgency with which the brakes of vehicle are being applied comprises a

pressure sensor adapted for registering the pressure being applied by the driver to the face of the brake pedal.

69. An anti-collision system as recited in claim 67, wherein said means for sensing the urgency with which the brakes of vehicle are being applied comprises an acceleration sensor adapted for registering the acceleration of the brake pedal in response to the urgency which the brake is being applied.

70. An anti-collision system as recited in claim 69, wherein said pressure sensor is utilized in combination with said acceleration sensor, whereby urgency may be qualified.

Cl5 Cont.

71. An anti-collision system as recited in claim 67, wherein said controller correlates multiple braking sensors prior to communicating an alert signal therefrom.

72. An anti-collision system as recited in claim 67, wherein said alert indicator comprises a visual display, audio annunciator, or combination thereof.

73. An anti-collision system as recited in claim 72, further comprising an alert sensitivity selector wherein the driver of a vehicles subject to responding to received said alert signals can select the alert signal conditions for which an alert indication will

be generated.

74. An anti-collision system as recited in claim 72, wherein a sound muting circuit is controlled by said controller for reducing sound being generated within said vehicle such that said audio annunciator may be easily heard when generating alert signal annunciations.

75. An anti-collision system as recited in claim 67, further comprising an annunciator adapted for indicating the presence of said alert signals registered by said primary vehicle.

Cl5 Cont.

76. An anti-collision system as recited in claim 75, wherein said annunciator comprises a rearward directed signal light.

77. An anti-collision system as recited in claim 75, wherein said rearward directed signal light is operably connected to said controller which is adapted for rapidly modulating the intensity of said signal light to increase driver recognition thereof.

78. An anti-collision system as recited in claim 77, further comprising a circuit for combining said alert signal with the output of the reversing lights within said vehicle wherein said alert signal may be annunciated on said reversing lights in combination

with their normal functionality.

79. An anti-collision system as recited in claim 67, wherein said position information comprises compass heading information.

80. An anti-collision system as recited in claim 67, wherein said position information comprises coordinate information from a locating means.

81. An anti-collision system as recited in claim 80, wherein said locating means comprises a global positioning system.

a15 cont.

82. An anti-collision system as recited in claim 81, wherein said controller is adapted to communicate said alert signals to a display associated with operating said global positioning system.

83. An anti-collision system as recited in claim 67, wherein said radio-frequency communication link is further adapted with transceivers for communicating bi-directionally, both in a rearward direction and a forward direction.

84. An anti-collision system as recited in claim 67:

wherein said radio-frequency communication link generates said alert signal

which includes regeneration control data for controlling the extent to which the alert is retransmitted by following vehicles;

wherein said controller is adapted to allow only the alert signals of highest severity to be retransmitted to additional following vehicles;

wherein regeneration control data comprises a regeneration count that controls the extent of retransmissions of said alert signals.

85. An anti-collision system as recited in claim 67, wherein said radio-frequency communication link is operated on a time slot basis, with said alert signal generation synchronized to the farthest forward, primary, vehicle generating said alert signal transmissions, whereby overlapping transmissions are prevented.

Q15 Cont.

86. An anti-collision system as recited in claim 67, further comprising means for registering additional alert conditions for communication to following vehicles.

87. An anti-collision system as recited in claim 86, wherein said additional alert condition comprises:

means for sensing vehicle swerving which is adapted to generate said alert signal indication upon registering a sufficient swerve rate for transmission by said radio-frequency communication link; and

a crash sensor adapted for registering collision of associated vehicle, wherein

said crash may cause deployment of vehicle airbag and be registered by the airbag deployment sensors;

a signal generated in response to emergency flasher activation; and

a signal associated with an alertive signal generated by emergency vehicles.

88. An anti-collision system as recited in claim 67, wherein said controller is adapted for mapping causitive events into multiple categories and/or levels of severity.

89. An anti-collision system as recited in claim 88, wherein said multiple levels of severity include a level associated with crash events associated with an accident that has occurred, and levels of hard braking and/or swerving.

Cl5 Cont.

90. An anti-collision system as recited in claim 67, further comprising an error monitoring circuit which is operably connected to said controller and adapted for verifying proper operation of said anti-collision system and disabling all or part of the functionality of said system if improper operation is detected.

91. An anti-collision system as recited in claim 67, further comprising a means for registering following distance to a preceding vehicle which is operably coupled to said controller.

92. An anti-collision system as recited in claim 91, further comprising an assisted braking mechanism operable coupled to said controller which activates vehicle braking in response to said alert signal and said registered following distance.

93. An anti-collision system as recited in claim 92, further comprising a tailgate distance selector, wherein a driver may control the relative car length distances at which alertive indications are generated.

94. An anti-collision system as recited in claim 67, further comprising a forward looking audio correlation system which registers and analyzes audio arriving toward the front of said vehicle and is adapted for generating an alert signal if an event of sufficient severity is detected.

cl5 Cont.

95. An anti-collision system as recited in claim 94, wherein said event of sufficient severity is selected from the group of alert conditions consisting of braking, hard braking, brake squeeling, and collisions.

96. An anti-collision system for use within motor vehicles, comprising:

means for sensing the urgency with which the brakes of the vehicle are being applied based on pressure and/or acceleration and generating alert signals in response thereto;

a radio-frequency communication link directed rearwardly from a primary vehicle transmitting alert signals, along with heading and/or location information, and regeneration control data for qualifying the alert signal, rearwardly to secondary vehicles receiving alert signal transmissions from vehicles further ahead;

an alert indicator adapted for annunciating said alert signal within a vehicle receiving said alert signal transmission;

a controller circuit operable connected to said means for sensing, said radio-frequency communication link, and said alert indicator, and adapted to transmit said alert signals in response to sufficiently urgent levels of braking;

a15 cont'd.

wherein said controller compares its heading and/or location information with that communicated within said alert signal to determine if an alert indication is to be generated and if the alert signal is to be regenerated;

wherein said controller examines said regeneration data to determine if said alert signal is to be regenerated to subsequent vehicles, and modifies the regeneration value to reduce subsequent retransmissions if regeneration is to occur.